

# AIMEE SCHWAB-MCCOY



## EDUCATION

- 2015  
|  
2012
- **Ph.D., Statistics**  
University of Nebraska-Lincoln 📍 Lincoln, NE
    - Dissertation: "Beta-Binomial Kriging: An Improved Method for Modeling Spatially Correlated Proportions"
- 2012  
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2010
- **M.S., Statistics**  
University of Nebraska-Lincoln 📍 Lincoln, NE
    - Thesis: "Evaluating the Teaching Assistant Preparation Course at UNL"
- 2010  
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2005
- **B.S., Mathematics**  
University of Nebraska-Lincoln 📍 Lincoln, NE
    - Honors: High distinction



## ACADEMIC APPOINTMENTS

- 2020  
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2017
- **Assistant Professor of Statistics**  
Creighton University 📍 Omaha, NE
- 2020  
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2019
- **Program Director: Data Science**  
Creighton University 📍 Omaha, NE
- 2017  
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2015
- **Assistant Professor of Statistics**  
Xavier University 📍 Cincinnati, OH
- 2015  
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2014
- **Assistant Statistician**  
School of Architectural Engineering and Construction, University of Nebraska-Lincoln 📍 Lincoln, NE
- 2015  
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2010
- **Graduate Teaching Assistant**  
Department of Statistics, University of Nebraska-Lincoln 📍 Lincoln, NE



## PEER-REVIEWED ARTICLES

- 2021  
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2020
- **"Misconceptions and Learning Gains about Statistical Inference in Introductory Biostatistics Courses"**  
Journal of Statistics Education 📍 Under review
    - Aimee Schwab-McCoy
- 2020
- **"Computing in the Data Science Curriculum: A Survey of Faculty Practices, Challenges, and Needs"**  
Journal of Statistics Education 📍 <https://doi.org/10.1080/10691898.2020.1851159>
    - Aimee Schwab-McCoy, Catherine Baker, and Rebecca Gasper

Assistant Professor  
of Statistics

Program Director:  
Data Science

Department of  
Mathematics

Creighton University

Certified RStudio  
Instructor

## CONTACT

🏠 Hixson-Lied 545

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💻 [aimeeschwab-mccoy.github.io](https://github.com/aimeeschwab-mccoy)

## RESEARCH INTERESTS

Statistics and data  
science curriculum  
and pedagogy

Generalized linear  
mixed models  
(applications in R)

Spatially correlated  
count data

Statistical consulting

Made w/ [pagedown](#) using  
Nick Strayer's CV guide  
[github.com/nstrayer/cv](https://github.com/nstrayer/cv).

Last updated: 2021-01-29.











- 2019 • **“Cellular prion protein gene polymorphisms linked to differential scrapie susceptibility correlate with distinct residue connectivity between secondary structure elements”**  
Journal of Biomolecular Structure and Dynamics  
📍 <https://doi.org/10.1080/07391102.2019.1708794>  
• Patricia Soto, India Claflin, Alyssa Bursott, Aimee Schwab-McCoy, and Jason Bartz
- 2019 • **“The State of Statistics Education Research in Client Disciplines: Themes and Trends Across the University”**  
Journal of Statistics Education 📍 <https://doi.org/10.1080/10691898.2019.1687369>  
• Aimee Schwab-McCoy
- 2018 • **“The incidence of nursing students’ perceived stress and burnout levels at a private university in California”**  
Journal of Nursing Education 📍 <https://doi.org/10.5430/jnep.v8n10p138>  
• Reo J. F. Jones, Margaret M. Hansen, Mahmoud Kaddoura, Aimee Schwab-McCoy, Kirsten Tocchini
- 2018 • **“Bringing Mainstream Media into the Quantitative Literacy Classroom”**  
Shifting Contexts, Stable Core: Advancing Quantitative Literacy in Higher Education  
📍 E-ISBN: 9781614443247  
• Aimee Schwab-McCoy
- 2017 • **“Life on an Island: Using Peer Consulting in Applied Statistics Courses”**  
CHANCE: Vol. 30, Special Issue on Climate Change  
📍 <https://chance.amstat.org/2017/11/life-on-an-island/>  
• Aimee Schwab-McCoy
- 2016 • **“Developing a First-Year Seminar Course in Statistics and Data Science”**  
Promoting understanding of statistics about society. Proceedings of the Roundtable Conference of the International Association of Statistics Education (IASE), July 2016, Berlin Germany.  
📍 <https://iase-web.org/documents/papers/rt2016/Schwab.pdf>  
• Aimee Schwab-McCoy
- 2016 • **“Emerging Patterns in Multi-Sourced Data Modeling Uncertainty”**  
Spatial Statistics: Special Issue on Emerging Patterns  
📍 <https://doi.org/10.1016/j.spasta.2016.05.005>  
• Alexander Kolovos, Lynette Smith, Aimee Schwab-McCoy, Sarah Gengler, Hwa-Lung Yu
- 2015 • **“Beta-Binomial Kriging: An Improved Model for Spatial Rates”**  
Procedia Environmental Sciences 📍 <https://doi.org/10.1016/j.proenv.2015.07.101>  
• Aimee Schwab, David Marx

## PRESENTATIONS

*Note: Virtual conference presentations can be viewed on my YouTube channel*


- 2020 • **“Moving Backward: Designing an R Ecosystem for Academic Programs”**  
Use-R 2020! 📍 Remote (COVID-19)  
• Aimee Schwab-McCoy

2020	<p>● <b>"Is a Consensus Curriculum on the Horizon?"</b>  UC Berkeley Workshop on Data Science Education  • Aimee Schwab-McCoy, Catherine Baker, and Rebecca Gasper</p>	📍 Remote (COVID-19)
2020	<p>● <b>"Data Science in 2020: Computing, Curricula, and Challenges for the Next 10 Years"</b>  Symposium on Data Science and Statistics  • Aimee Schwab-McCoy, Catherine Baker, and Rebecca Gasper</p>	📍 Remote (COVID-19)
2020	<p>● <b>"Subsemble Estimation for Spatial Count Data"</b>  Conference on Statistical Practice  • Aimee Schwab-McCoy, Mark May</p>	📍 Sacramento, CA
2019	<p>● <b>"Toward Interpretable Machine Learning"</b>  Omaha Women in Machine Learning and Data Science (Invited)  • Aimee Schwab-McCoy</p>	📍 Omaha, NE
2019	<p>● <b>"Pre-Conceptions of Statistical Inference in Biostatistics"</b>  University of Nebraska Medical Center Department Colloquium (Invited)  • Aimee Schwab-McCoy</p>	📍 Omaha, NE
2019	<p>● <b>"Pre-Conceptions of Statistical Inference in Biostatistics"</b>  Joint Statistical Meetings  • Aimee Schwab-McCoy</p>	📍 Denver, CO
2019	<p>● <b>"Applications of Subsemble Estimation in Multivariate Spatial Models"</b>  Joint Statistical Meetings  • Mark May, Aimee Schwab-McCoy</p>	📍 Denver, CO
2019	<p>● <b>"Pre-Conceptions of Statistical Inference in Biostatistics"</b>  US Conference on Teaching Statistics  • Aimee Schwab-McCoy</p>	📍 State College, PA
2018	<p>● <b>"Statistics Education Across the University: A Systematic Review"</b>  Joint Statistical Meetings  • Aimee Schwab-McCoy</p>	📍 Vancouver, BC, Canada
2018	<p>● <b>"Spatial Simulation and Estimation of Generalized Linear Mixed Models with Non-Normal Data"</b>  BERD Big Data Methodology Workshop  • Lynette Smith, Aimee Schwab-McCoy, David Marx</p>	📍 Omaha, NE
2017	<p>● <b>"Data-Focused Activities and Lessons in Seminar-Style Introductory Courses"</b>  US Conference on Teaching Statistics  • Aimee Schwab-McCoy, Ming-Wen An, Wissman, Adam Molnar</p>	📍 State College, PA
2018	<p>● <b>"Life in the Data Deluge: A First-Year Seminar on the Implications of Data Science for Daily Life"</b>  Joint Mathematics Meetings  • Aimee Schwab-McCoy</p>	📍 San Diego, CA

- 2016 ● **"Developing a First-Year Seminar Course in Statistics and Data Science"**  
IASE Roundtable Conference (Invited)  Berlin, Germany  
• Aimee Schwab-McCoy
- 2015 ● **"Statistical Consulting: Making Connections Across the Curriculum"**  
US Conference on Teaching Statistics  State College, PA  
• Aimee Schwab, Pamela Fellers
- 2016 ● **"Peer Consulting in Undergraduate Statistics Courses"**  
Joint Mathematics Meetings  Seattle, WA  
• Aimee Schwab-McCoy
- 2015 ● **"Beta-Binomial Kriging: An Alternative Model for Spatial Rates"**  
Joint Statistical Meetings  Seattle, WA  
• Aimee Schwab, David Marx
- 2015 ● **"Beta-Binomial Kriging: An Alternative Model for Spatial Rates"**  
Spatial Statistics 2015: Emerging Patterns  Avignon, France  
• Aimee Schwab, David Marx
- 2014 ● **"Spatial Simulation and Estimation of Generalized Linear Mixed Models with Non-Normal Data"**  
METMA-GRASPA Joint Meeting  Turino, Italy  
• Lynette Smith, Aimee Schwab, David Marx
- 2014 ● **"Using the Island to Develop Consulting Skills"**  
Joint Statistical Meetings  Boston, MA  
• Aimee Schwab
- 2014 ● **"Developing New Statistics Instructors and Student Leaders Through Peer Mentoring"**  
CAUSE Webinar  Online webinar  
• Erin Blankenship, Aimee Schwab
- 2013 ● **"Facebook Friend Data: Analyzing Non-Random Samples in the Introductory Course"**  
Joint Statistical Meetings  Montreal, Canada  
• Aimee Schwab
- 2013 ● **"Using StatCrunch Friend Data to Illustrate Consequences of a Non-Random Sample"**  
US Conference on Teaching Statistics  Raleigh, NC  
• Aimee Schwab



## GRANTS



- 2020 ● **"Nebraska Institute in Human-Powered AI for Bioimaging"**  
National Science Foundation (NSF 20-503)  Amount: \$45,822 (Under review)  
• Creighton PI: Aimee Schwab-McCoy; Subaward from UNL

- 2019 ● **“Nebraska Center for Modeling, Analysis, Prediction, and Imaging of Data”**  
Nebraska EPSCoR RII Pre-Proposal Amount: \$13,633,045 (Declined)  
• PI: Jennifer Clarke (UNL); Co-PIs: Martin Centurion (UNL), Bertrand Clarke (UNL), Mikil Foss (UNL), Adam Larios (UNL), Mahbubal Majumder (UNO), Nathan Pennington (Creighton), Petronela Radu (UNL), Aimee Schwab-McCoy (Creighton), Stephen Scott (UNL)
- 2019 ● **“MAPping Data Science: Establishing an Institute for Meaningful Assessment Practices in Data Science”**  
National Science Foundation (NSF 19-549) Amount: \$434,917 (Declined)  
• PI: Aimee Schwab-McCoy; Co-PIs: Catherine Baker, Rebecca Gasper
- 2019 ● **“Applications of Subsemble Estimation in Multivariate Spatial Models”**  
Creighton Haddix President’s Faculty Research Fund Amount: \$5,000 (Awarded)  
• PI: Aimee Schwab-McCoy
- 2019 ● **“Faculty Development Grant: Introduction to Data Science”**  
CURAS Certificate in Research and Scholarship Amount: \$2,000 (Awarded)  
• PI: Aimee Schwab-McCoy
- 2019 ● **“Faculty Development Grant: Biostatistics”**  
CURAS Certificate in Research and Scholarship Amount: \$4,000 (Awarded)  
• Co-PIs: Aimee Schwab-McCoy, Andrew Kraemer
- 2018 ● **“Honey Bees in Peril: An investigation of honey bee viral infection dynamics and modeling-implications for Colony Collapse Disorder”**  
Haddix Interdisciplinary Project Grant Amount: \$15,000 (Awarded)  
• PI: Carol Fassbinder-Orth; Co-PIs: Andrew Kraemer, Aimee Schwab-McCoy
- 2018 ● **“Exploring Student Understanding and Misconceptions of Statistical Inference in Biostatistics”**  
Creighton Scholarship of Teaching and Learning Grant Amount: \$1,500 (Awarded)  
• PI: Aimee Schwab-McCoy
- 2017 ● **“Statistics Education Across the University: A Systematic Review”**  
Xavier Wheeler Award Amount: \$4,000 (Awarded)  
• PI: Aimee Schwab-McCoy
- 2016 ● **“Creating a Xavier pilot program to support career specialization and persistence of female students in disciplines with underrepresentation”**  
Xavier Women of Excellence Grant Amount: \$10,000 (Awarded)  
• Co-PIs: Laura Wessels, Dena Morton, Aimee Schwab-McCoy, Heidrun Schmitzer



## UNDERGRADUATE RESEARCH

- 2021 | 2020 ● **Modeling social distancing adherence during the COVID-19 pandemic**  
Creighton University Student: Josh Eason  
• Use dimension reductions to create a “mapping” of counties in the US to use in a spatial-temporal model of adherence to social distancing restrictions

- 2019 ● **Subsemble estimation applied to spatial GLMMs**  
Creighton University  Student: Mark May
- Apply subsemble estimation for estimating spatial parameters in a generalized linear mixed model (GLMM).
- 2018 ● **Analysis of high dimensional case-control study**  
Creighton University  Student: Jessica Sandcork
- Evaluate resampling-based multiple testing and adaptive Benjamini-Hochberg procedures to test for statistically significant differences between subjects in a small sample case-control study. Used machine learning to adjust for correlation between variables.



## SERVICE

- 2022 ● **Program Chair; Section on Data Science and Statistics Education**  
Joint Statistical Meetings  Washington, DC
- Coordinate invited and contributed talks at the 2022 Joint Statistical Meetings, as well as organize Birds of a Feather sessions (in-person and virtually) for the 2021 JSM
- 2021 | 2020 ● **Goldwater Scholarship Committee**  
Member  Creighton University
- Review and mentor Goldwater scholarship applications
- 2021 | 2020 ● **OpenIntro Statistics**  
Contributor  openintro.org
- Contribute multiple choice questions developed using the Rexams framework to the OpenIntro Statistics Project
- 2021 | 2020 ● **Magis Core Curriculum Assessment Committee**  
Member  Creighton University
- Review assessment rubrics and plans for Magis Core Curriculum
- 2020 | 2019 ● **Ratio Studiorum Program**  
Freshman advisor  Creighton University
- Advise first-year students in the Ratio Studiorum Program
- 2020 | 2017 ● **Reviewer**  
Journal and conference reviews  Various
- Journal of Statistics Education, Spatial Statistics, Journal of University Teaching and Learning, SIGSCE (Special Interest Group on Computer Science Education) Technical Symposium
- 2020 | 2018 ● **Reviewer**  
Textbook reviews  Various
- Review proposed and revised textbooks: "Foundations of Statistics with R", "The Analysis of Biological Data", "STAT2: Building Models for a World of Data", "Principles of Biostatistics", "Modern Data Science with R"
- 2020 ● **Clare Boothe Luce Scholarship Award Committee**  
Member  Creighton University
- Review applications for Clare Boothe Luce tuition and research scholarship

- 2017  
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2016
- **Quantitative Reasoning Committee**  
Member 📍 Xavier University
    - Review and approve course proposals for Quantitative Reasoning Flag in core curriculum
  - **Hiring Committee**  
Member 📍 Xavier University
    - Review and interview candidates for open positions in statistics



## AWARDS

- 2019
- **Best Young Investigator Award**  
Winner 📍 ASA Section on Teaching Statistics in the Health Sciences

2014

  - **Best Contributed Paper Award - JSM**  
Winner 📍 ASA Section on Teaching Statistics in the Health Sciences

2013

  - **Outstanding Graduate Teaching Assistant Award (UNL)**  
Honorable Mention 📍 University of Nebraska-Lincoln